



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D4680-041
Job Sheet 180344



Part No: D4680-041

Job Qty: 1 ea

Part Name: Skidtube Assembly



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 7/5/18

Job Tracking No:

Due Date: 8/2/18

Created By: Jesse White

Type: Stock

Description:

Note: DWG REV F IPP REV:A 13.04.16 NEW ISSUE DD VERF:JLM IPP REV:B 13.08.08 PB2 DD VERF:JLM IPP REV:C 13.09.10 PB3 DD VERF:JLM IPP REV:D 13.11.14 AS PER DWG REV.B DD VERF:JLM IPP REV:C 14.11.24 AS PER DWG REV.C DD VERF:JLM IPP REV:D 15.06.10 AS PER DWG REV.D DD VERF:JLM IPP REV:E 16.03.23 AS PER DWG REV.E DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		8/2/18	0.00	0.00	Start Up Skidtubes-2		
120	Skidtubes	1 pcs		8/2/18	0.00	4.86	Skidtubes-2		
140	QC	1 pcs		8/2/18	0.00	0.00	QC5		
150	HandFinish	1 pcs		8/2/18	0.00	0.73	HandFinish1		
160	QC	1 pcs		8/2/18	0.00	0.00	QC7-4		
170	Skidtubes	1 pcs		8/2/18	0.00	4.86	Skidtubes-2		
180	QC	1 pcs		8/2/18	0.00	0.00	QC5		
210	HandFinish	1 pcs		8/2/18	0.00	0.73	HandFinish2		
220	Powdercoat	1 pcs		8/2/18	0.00	0.17	Powdercoat1		
230	QC	1 pcs		8/2/18	0.00	0.00	QC3		
260	HandFinish	1 pcs		8/2/18	0.00	0.73	HandFinish4		
270	QC	1 pcs		8/2/18	0.00	0.00	QC5		
300	Packaging	1 pcs		8/2/18	0.00	0.00	Packaging3-2		
310	QC21-SA	1 Ea		8/2/18	0.00	0.00	QC21		

Part Op 120 - 1-Cut Aft end as per dwg D4680 3-Drill Aft & Fwd Cap holes using DT8678 & DT8901 open aft cap 0.187". 4-Locate Descriptions: DT10149 & Drill Ground wire hole on top of Tube. 5-Locate DT10149 with 0.187" cleco in aft cap ,then Pilot Drill all X-Bolt holes using 0.187" drill. 6-Open ground wire hole .297" at 95.75" (1 at fwd end & 2 at aft end at 20.81" ref.) 8- 3 most fwd x-bolt holes must be laid out manually, open to #30. 9-Open Aft & Fwd Cap holes using .208" drill. 10- Open X-Bolt holes to .750" (10 places) 11- Drill Rivet Holes as per Dwg D4680 using DT10065 ***DO NOT DRILL RIVET HOLES ON SECTION G-G (TWO PLACES) Open G-G to .750 12-Deburr holes.

170 - 1- Bond web as per Dwg D4680 & QSI 015 2- Seal all faying surfaces using proseal and rivet Doubler as per Dwg D4680. A/R Proseal Batch: 138874 exp date: 11/18 ***LET IT CURE FOR 7HRS*** START TIME: _____ FINISH TIME: _____ 3- Rivet doublers as per dwg Shave rivet as required, remove

Proseal spill over. 4- Ream holes section C-C as per dwg, deburr 8 places 5- Swage x-bolt spacers as per Dwg D4680 and section C-C 8 places. 6- Swage x-bolt spacer as per dwg D4680 section G-G 7- Trim/Grind flush per QSI 002

210 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

220 - START TIME: 8:00 O/T: 3:30 FINISH: 8:30 M83893

260 - 1- Install Ground Wire inserts as per Dwg D4680. 2-Inspect for Foreign objects 3- Install Fwd & Aft caps as per Dwg D4680 and Detail "A" & "B". Fastener must be install wet as per note (9). Seal all faying surfaces note (8) A/R 241 Sika Flex Batch: M138874 Exp Date: 06/19 4- Wing Walk as per Dwg D4680 and QSI 005 4.4

Batch: M138894

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D4680-041-BENT	Extrusion Bent	1 Ea (1 ea)	90-Start up Operation	3088995
D5520-1	Doubler	2 Ea (2 ea)	120-Skidtubes	5082764
CR3212-5-05	Rivet	68 pcs (68 ea)	170-Skidtubes	5093891
D4681-041	Web Assembly	1 Ea (1 ea)	170-Skidtubes	5084645
ALS4 AELS-1032-130	Rivnut	3 Ea (3 ea)	260-HandFinish	5007279
AN3C4A	Bolt	3 Ea (3 ea)	260-HandFinish	5095223
AN3C5A	Bolt	2 Ea (2 ea)	260-HandFinish	5095214
AN526C1032R10	Screw	2 Ea (2 ea)	260-HandFinish	5071664-2
D2965	Cap	1 Ea (1 ea)	260-HandFinish	5045482
D2965-3	Cap	1 Ea (1 ea)	260-HandFinish	5126369
D4686-1	Spacer	8 Ea (8 ea)	260-HandFinish	5053512
D5304-1	Crossbolt Spacer	2 Ea (2 ea)	260-HandFinish	5093837
MS20601-AD4W3	Rivet	32 Ea (32 ea)	260-HandFinish	5092657
NAS1149C0332R	Washer	5 Ea (5 ea)	260-HandFinish	5071663
D4753-1	Doubler	16 Ea (16 ea)	300-Packaging	5082386

m.u. 005362

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D4680-041-BENT	1	9	0
120-Skidtubes	D5520-1	2	46	0
170-Skidtubes	CR3212-5-05	68	494	0
	D4681-041	1	8	0
260-HandFinish	AELS-1032-130	3	0	0
	AN3C4A	3	1,707	0
	AN3C5A	2	1,852	0
	AN526C1032R10	2	162	0
	D2965	1	76	0
	D2965-3	1	26	0
	D4686-1	8	44	0
	D5304-1	2	19	0
	MS20601-AD4W3	32	999	0
	NAS1149C0332R	5	4,765	0
300-Packaging	D4753-1	16	135	0

Part Specifications

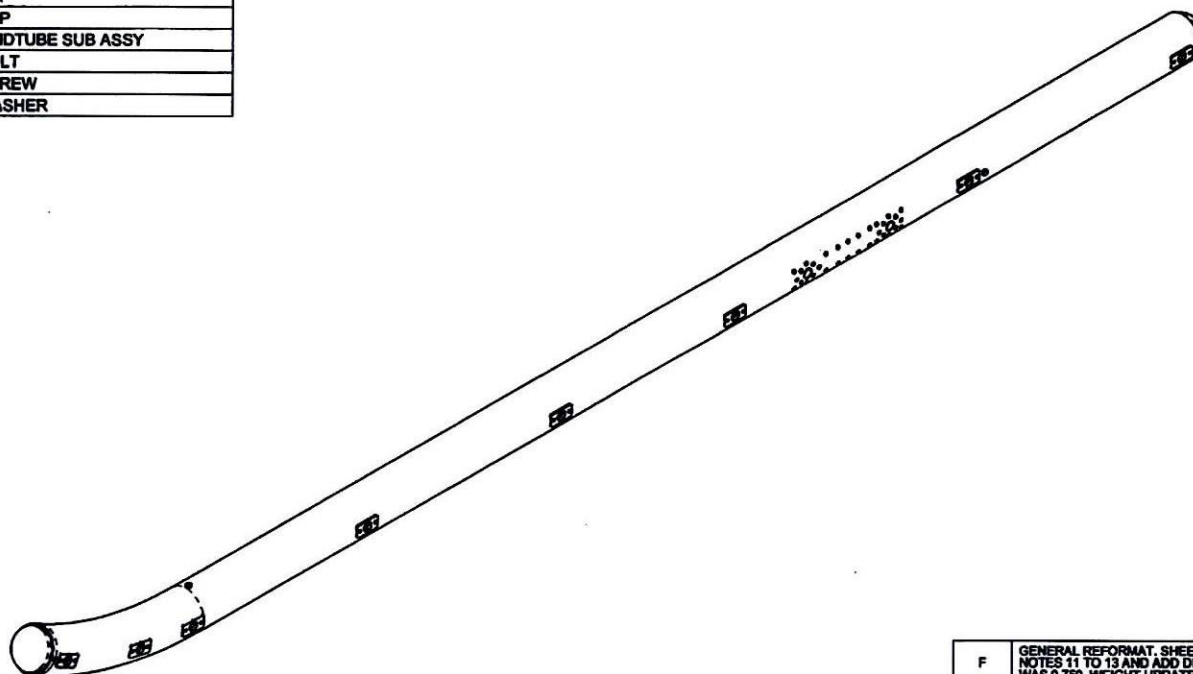
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DAK I
 AEROSPACE
 Container No: S097071
 Part: D4680 - 041
 Job No: 180344
 Serial No/Batch: S097071
 Revision: F
 Inspector:
 Exp Date:
 Instructions: Various STC's
 Date: 09/06/18

1410 ROUTE 111, SUITE 101
 DART HAWKESBURY, ON L6A 1K7
 CANADA
 TEL: 1 513 632-1500
 Email: sales@darti.com
 www.darti.com

White, Jesse

ITEM	QTY -041	P/N	DESCRIPTION
	X	D4680-041	SKIDTUBE
1	1	D2965	CAP
2	1	D2965-3	CAP
3	1	D4680-043	SKIDTUBE SUB ASSY
4	2	AN3C5A	BOLT
5	2	AN526C1032R10	SCREW
6	2	NAS1149C0332R	WASHER



NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 1.00 ABOVE CENTERLINE PER QSI 005 SECTION 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4680-041" AND B/N PER QSI 044 METHOD 6.4 ON INNER RADIUS OF SKIDTUBE BEFORE INSTALLING D2965 CAP
- 7) WEIGHT: 19.3 lbs
- 8) SEAL FAYING SURFACES WITH SIKAFLEX -241/-291 OR PROSEAL 890/1422 OR MIL-S-8802 CLASS B-2 SEALANT
- 9) INSTALL FASTENERS WET WITH SIKAFLEX -241/-291 OR PROSEAL 890/1422 OR MIL-S-8802 CLASS B-2 SEALANT

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2017-08-11
ECN 17-547

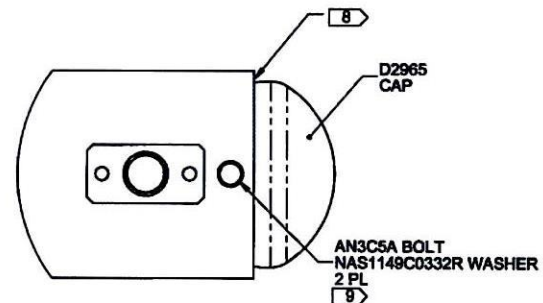
F	GENERAL REFORMAT. SHEET 3: ADD ITEMS 8 & 11 ADD NOTES 11 TO 13 AND ADD DETAIL H. SHEET 5: Ø0.188 WAS 0.750. WEIGHT UPDATE. ADD PROSEAL 1422	AJS	17.03.30
E	GROUND HANDLING CROSSBOLT SPACERS NOW SWAGED. WAS WELDED. REMOVED D3482-055 PLUG ASSEMBLIES	AP	15.11.02
D	MOVED AFT GROUNDING FASTENER HOLE AFT 0.25 DUE TO INTERFERENCE. ADDED NOTE 9 (SHT 1), GROUNDING STRAP WASHERS NOW STAINLESS	AP	15.03.04
C	NAS1149C0332P WAS AN860-10L. AN526C1032R10 WAS AN526C1032-10. FWD GROUNDING STRAP FASTENER MOVED AFT (C5-3). Ø0.750 WAS Ø0.758 (B4-3)	AP	14.07.29
B	FWD CAP WAS D2965 NOW D2965-3. VARIOUS DIMENSIONAL CHANGES. D3482-055 PLUG ASSY WAS D3482-051. SWAGING DIMENSION NOW 0.650 WAS 0.661 (D6-2). ADDED DETAIL H (C2-3). MATERIAL D2962-150 WAS D2962-151 (A7-3). GROUND HANDLING THRU HOLES NOW WELDED. ADDED SECTION G-G (D3-2)	AP	13.09.10
A	NEW ISSUE	AP	13.02.13
REV.	DESCRIPTION	BY	DATE
DESIGN	AP	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	AJS		
CHECKED	ML	DRAWING NO.	REV. F
MFG. APPR.	DP	D4680	SHEET 1 OF 5
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	SKIDTUBE	NTS
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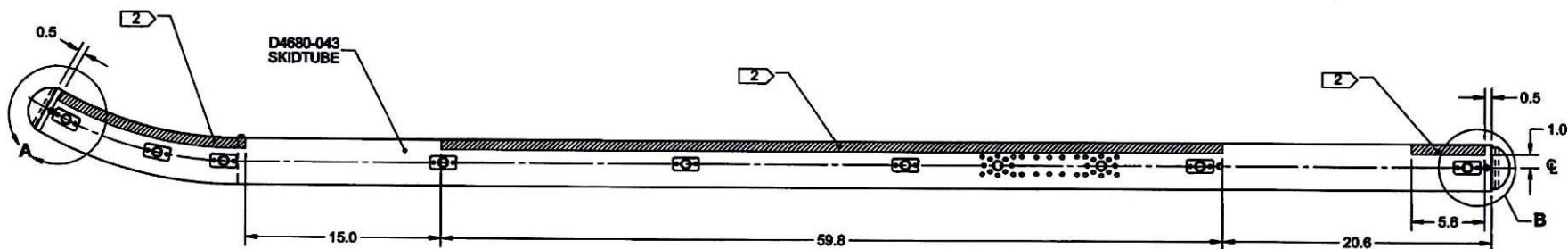
AN526C1032R10
SCREW
2 PL
8

D2965-3
CAP
8

DETAIL A
SCALE 4X



DETAIL B
SCALE 4X



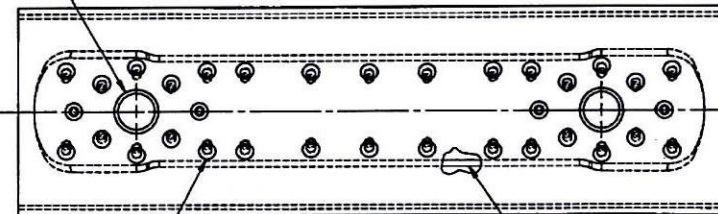
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MFG. APPR.	DP	D4680	SHEET 2 OF 5
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ITEM	QTY	P/N	DESCRIPTION
	X	D4680-043	SKIDTUBE SUB ASSY
1	1	D4680-1	SKIDTUBE
2	1	D4681-041	WEB ASSY
3	8	D4686-1	SPACER
4	16	D4753-1	DOUBLER
5	2	D5304-1	CROSSBOLT SPACER
6	2	D5520-1	DOUBLER
7	3	AN3C4A	BOLT
8	32	MS20601AD4W3	RIVET, BLIND, CSK
9	3	NAS1149C0332R	WASHER
10	3	AELS-1032-130	INSERT
11	68	CR3212-5-05	CSK RIVET, CHERRY MAX

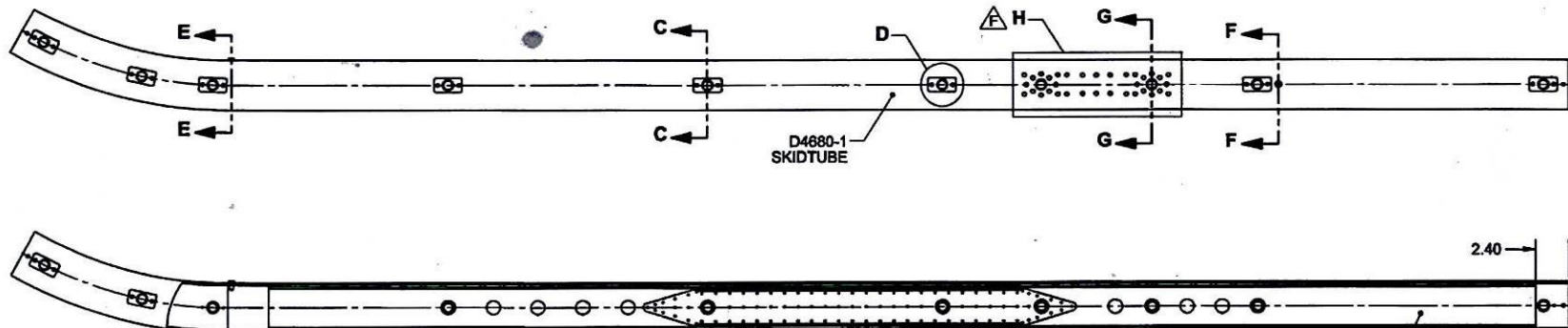
OPEN TO
Ø0.750
THRU 2 PL



12 CR3212-5-05
CSK RIVET, CHERRY MAX
34 PL PER DOUBLER

DETAIL H
SCALE 4X

11 D5520-1 DOUBLER
2 PL



D4680-043 SKIDTUBE SUB ASSY

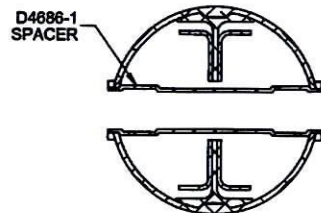
9 D4681-041
WEB ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: APPLY CHEMICAL CONVERSION COATING PER DART QSI 005 4.1 PRIOR TO INSTALLING D4681-041 WEB.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 18.6 lbs
- 8) SEAL ALL MATING SURFACES USING PROSEAL 890/1422 OR MIL-S-8802 CLASS B2 SEALANT
- 9) INSERT D4681-041 WEB INTO D4680-1 SKIDTUBE IN LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX -241/-291 ADHESIVE PER DART QSI 015
- 10) INSTALL D4686-1 SPACER AFTER INSTALLING D4753-1 DOUBLERS
- 11) LOCATE THE D5520-1 DOUBLER USING THE Ø0.188 PILOT HOLES ON THE SKIDTUBE AND DOUBLER
- 12) LOCATE QTY (34) HOLES ONTO THE SKIDTUBE PER D5520-1 DOUBLER AND DRILL Ø0.161 THRU SKIDTUBE AND DOUBLER USING DT10309
- 13) COUNTERSINK THE SKIDTUBE Ø0.288 X 1.00" (34 PL) AND INSTALL EACH D5520-1 DOUBLER USING QTY (68) CR3212-5-05 CSK RIVETS

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MFG. APPR.	DP	D4680	SHEET 3 OF 5
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	SKIDTUBE	NTS

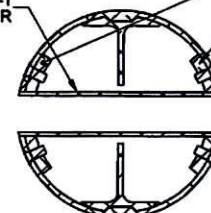


10 **SECTION C-C**
SCALE 4X
8 PL

INSTALL D4686-1 SPACER AS FOLLOWS (8 PL)
AFTER INSTALLING D4753-1 DOUBLERS PER DETAIL D

1. INSERT D4686-1 SPACER
2. SWAGE TO $\phi 0.650 +0.010/-0.000 \times 1.0$
DEEP PER QSI 002
3. TRIM/GRIND FLUSH PER QSI 002

D5304-1
CROSSBOLT SPACER



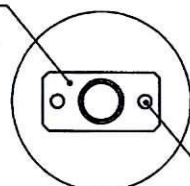
SECTION G-G Δ
SCALE 4X
2 PL

D5520-1 DOUBLER
REF

INSTALL D5304-1 SPACER AS FOLLOWS (2 PL)

1. INSERT D5304-1 SPACER
2. SWAGE TO $\phi 0.565 +0.005/-0.000 \times 1.0$
DEEP PER QSI 002
3. OPEN THRU HOLE TO $\phi 0.625$

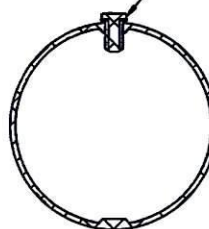
8
D4753-1
DOUBLER



DETAIL D
16 PL (BOTH SIDES)
SCALE 4X

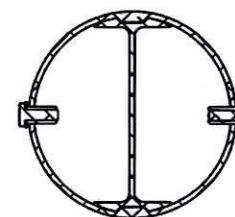
MS20601AD4W3
RIVET, BLIND, CSK
2 PL

AN3C4A BOLT
NAS1149C0332R WASHER
AELS-1032-130 INSERT



SECTION E-E
SCALE 4X

AN3C4A BOLT
NAS1149C0332R WASHER
AELS-1032-130 INSERT
2 PL



SECTION F-F
SCALE 4X

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